NEWS LETTER

MANNING SEED COMPANY
DEXTER HORTON BUILDING
SEATTLE 4, WASHINGTON, U.S.A.

PRICE LIST FOR AVAILABLE CERTIFIED MANINGSEED

11/20/50

Region, Zone * and Elevation Lot No.	Botanical Name	Common Name	Price/Lb. FOB Roy, Wash.
	Chamaecyparis		
49-0.5	Chamaecyparis Lawsoniana	Port Orford Cedar	Sold
A1-0.5	Chamaecyparis nootkatensis	Alaska Cedar	$14.00
78-2.0	Thuja plicata	Western Red Cedar	9.00
	Abies		
C1-4.0	Abies concolor	White Fir	5.50
Poor Crop	Abies grandis	Grand Fir	--
C2-5.0	Abies magnifica	California Red Fir	8.00
85-2.0	Abies nobilis	Noble Fir	6.00
103-2.0	Abies amabilis	Silver Fir	6.00
	Tsuga		
Sold	Tsuga heterophylla	Western Hemlock	Sold
Sold	Tsuga Mertensiana	Mountain Hemlock	Sold
	Pseudotsuga		
xx	Pseudotsuga taxifolia (viridis)	Douglas Fir	xx
	Larix		
Japan	Larix leptolepis	Japanese Larch	5.00
Sold	Larix occidentalis	Western Larch	Sold
	Pinus		
C1-4.0	Pinus ponderosa	Western Yellow Pine	5.50
29-0.5	Pinus contorta	Lodgepole Pine	8.00
41-0.5	Pinus contorta	Lodgepole Pine	8.00
01-3.0	Pinus contorta-var. Murrayana	Mountain Lodgepole Pine	8.00
	Picea		
Sold	Picea Engelmannii	Engelmann Spruce	Sold
Col-4.0	Picea pungens	Blue Spruce--Colorado	6.25
29-0.5	Picea sitchensis	Sitka Spruce-Washington	7.50
B1-0.5	Picea sitchensis	Sitka Spruce-British Columbia, Canada	6.75
M1-3.0	Picea glauca	Western White Spruce	8.00
	Sequoia		
C2-6.0	Sequoia gigantea	Big Tree	12.00
C3-1.0	Sequoia sempervirens	Redwood	10.00

* The first numeral or letter is the region; the second numeral is the exact collection zone. The number following the dash is the elevation range. (See footnote, Bulletin No. 2)

xx See Douglas Fir price lists for lot numbers and prices.

NEWS LETTER

MANNING SEED COMPANY

DEXTER HORTON BUILDING
SEATTLE 4, WASHINGTON, U.S.A.

AVAILABLE DOUGLAS FIR SEED - BY LOT NUMBERS

CERTIFIED MANINGSEED

Region, Zone * and Elevation	Lot No.	COLLECTION AREAS	Nearest Weather Station No. **	Price*** Per Lb.
(Region 1)	13-0.5	Forks (Sappho)	7	BONDED***
(Region 2)	22-0.5	Hoquiam	Between 19 and 16	$8.75
	51-0.5	San Juan	32	9.75
	53-0.5	Camano Island	33	6.75
(Region 5)	55-1.0	Sequim	5	BONDED***
	55-2.0	Sequim	5	BONDED***
	56-1.0	Quilcene	14	BONDED***
	56-2.0	Quilcene (Louella)	14 +	BONDED***
(Region 6)	65-1.0	Darrington	51	BONDED***
	72-1.0	Enumclaw	Between 60 and 71	$7.50
	72-2.0	Enumclaw	Between 60 and 72	8.75
	73-1.0	Graham	71	8.75
(Region 7)	74-0.5	Elma	Between 18 and 84	7.00
	75-0.5	Yelm	Between 37 and 81	6.75
	76-1.0	Tenino	Between 85 and 37	7.00
	77-0.5	Pe Ell	89	7.50
	78-2.0	Ashford (National)	Between 74 and 76	8.75
	79-1.0	Castle Rock	95	9.50
	79-2.0	Castle Rock	95 +	BONDED***
	82-1.0	Vernonia	113 +	8.75
	83-2.0	Yacolt	100 +	BONDED***
(Region 8)	84-2.0	Eslacadia	125	BONDED***
	86-1.0	Sweet Home	Between 153 and 154	6.75
	87-1.0	Lowell	159	6.00
	88-1.0	Cottage Grove	157	6.75
	89-2.0	Santiam River	Between 135 and 160	6.75
(Region 10)	102-2.0	Wind River	105	BONDED***
(Canada)	B10-2.0	Shuswap	Rainfall--19 inches	7.00

* The first numeral of the Lot Number is the region - See Bulletin No. 1 for full explanation. The second numeral is the exact cone collection zone - see MANINGSEED Douglas Fir Site Maps for details. The number following the dash is the elevation range in thousands of feet, according to this table:

0.5 = 0 to 500 feet
1.0 = 0 to 1000 feet
2.0 = 1001 to 2000 feet
3.0 = 2001 to 3000 feet

** See Booklet: "Better Douglas Fir Forests from Better Seed", pages 40-45.

*** Only BONDED MANINGSEED available from these locations at this time.

+ Adjustment in weather station data is necessary because of higher elevation.

Note: For prices marked "BONDED" see BONDED MANINGSEED Price List.

NEWS LETTER

MANNING SEED COMPANY

DEXTER HORTON BUILDING
SEATTLE 4, WASHINGTON, U.S.A.

CURRENTLY AVAILABLE BONDED DOUGLAS VIRIDIS

Region, * Zone and Elevation Lot No.	BONDED MANINGSEED COLLECTION AREAS -- Order Bonded Seed by Lot Number	Nearest ** Weather Station Number	Prepaid*** Bonded Seed Price/Lb.
(Region 1) 13-0.5	Forks (Sappho)	7	$18.00
(Region 2) 22-0.5	Hoquiam	Between 19 and 16	15.00
(Region 5) 55-1.0	Sequim	5	15.00
55-2.0	Sequim	5	17.50
56-1.0	Quilcene	14	13.50
56-2.0	Quilcene	14 +	15.00
(Region 6) 65-1.0	Darrington	51	25.00
72-1.0	Enumclaw	Between 60 and 71	15.00
72-2.0	Enumclaw	Between 60 and 72	16.00
(Region 7) 74-0.5	Elma	Between 18 and 84	13.50
76-1.0	Tenino	Between 85 and 37	10.00
78-2.0	Ashford (National)	Between 74 and 76	14.00
79-1.0	Castle Rock	95	13.50
79-2.0	Castle Rock (Meridian Lookout)	95 +	15.00
82-1.0	Vernonia	113	13.50
83-2.0	Yacolt	100 +	18.00
(Region 8) 84-2.0	Eslacadia	125	13.50
86-1.0	Sweet Home	Between 153 and 154	13.50
88-1.0	Cottage Grove	157	13.50
89-2.0	Santiam River	Between 135 and 160	15.00
(Region 10) 102-2.0	Wind River	105	17.50
(Canada) B10-2.0	Shuswap	Rainfall 19 inches	13.50

* The first numeral of the Lot Number is the region - see Bulletin No. 1 for full explanation. The second numeral is the exact cone collection zone - see MANINGSEED Douglas Fir Site Maps for details. The number following the dash is the elevation range in thousands of feet, according to this table:

0.5 = 0 to 500 feet
1.0 = 0 to 1000 feet
2.0 = 1001 to 2000 feet
3.0 = 2001 to 3000 feet

*** ALL BONDED MANINGSEED is forwarded via AIR at our expense. Delivery to any international airport requires about three days.

** See booklet "Better Douglas Fir Forests from Better Seed", pages 40-45

\+ Adjustment in weather station data is necessary because of higher elevation.

NEWS LETTER

MANNING SEED COMPANY

DEXTER HORTON BUILDING
SEATTLE 4, WASHINGTON, U.S.A.

WEST COAST TREE SEEDS
collected by
MANNING SEED COMPANY

Alphabetically with Code Letters

Botanical Name	Common Name	Code
Chamaecyparis		C
Chamaecyparis Lawsoniana	Port Orford Cedar	C-1
Chamaecyparis nootkatensis	Alaska Cedar	C-2
Libocedrus decurrens	Incense cedar	C-3
Thuja plicata	Western Red Cedar	C-4
Abies		F
Abies lasiocarpa	Alpine Fir	F-1
Abies concolor	White Fir	F-2
Abies grandis	Grand Fir	F-3
Abies magnifica	California Red Fir	F-4
Abies nobilis	Noble Fir	F-5
Abies amabilis	Silver Fir	F-6
Tsuga		H
Tsuga heterophylla	Western Hemlock	H-1
Tsuga Mertensiana	Mountain Hemlock	H-2
Pseudotsuga		HF
Psuedotsuga taxifolia (viridis)	Douglas Fir	Hf-1
Juniperus		J
Juniperus scopulorum	Rocky Mountain Juniper	J-2
Larix		L
Larix occidentalis	Western Larch	L-1
Pinus		P
Pinus Lambertiana	Sugar Pine	P-1
Pinus ponderosa	Western Yellow Pine	P-2
Pinus Jeffreyi	Jeffrey Pine	P-3
Pinus contorta	Lodgepole Pine	P-4
Pinus contorta-var.Murrayana	Mountain variety, Lodgepole Pine	P-4a
Pinus monticola	Western White Pine	P-5
Picea	W	S
Picea Engelmannii	Engelmann Spruce	S-1
Picea pungens	Blue Spruce - Colorado	S-1.2
Picea sitchensis	Sitka Spruce - Washington, Oregon or Alaska	S-2
Picea glauca	Western White Spruce	S-5
Sequoia		Se
Sequoia gigantea	Big Tree	Se-1
Sequoia sempervirens	Redwood	SE-2

NEWS LETTER

MANNING SEED COMPANY

DEXTER HORTON BUILDING
SEATTLE 4, WASHINGTON, U.S.A.

BULLETIN NO. 1

MANINGSEED COLLECTION REGIONS In the DOUGLAS-FIR FORESTS Of OREGON and WASHINGTON

The most important factors to observe in locating the correct seed sources for coniferous tree seeds are (1) average annual temperature, (2) minimum temperature, (3) rainfall, particularly during the growing season, and (4) general moisture conditions of the atmosphere.

In ordering "Bonded MANINGSEED", altitude and other topographic features should be taken into consideration as they affect climate, and within each region there may be specific soil conditions that will require consideration by the customer. The Douglas Fir region has dry summers; therefore, a seed source with a greater annual rainfall can be selected for planting at locations that have heavy rainfall during the growing season.

There are approximately eight degrees difference in the spread of average annual temperature between Canada and California in the Douglas-Fir region. There are also three specific climatic belts, namely:

(A) The so-called "fog belt" between the Coast Range and the sea on the Oregon and Washington coast;
(B) The drier interior valleys between the Coast Range and the middle elevation of the Cascades that extend from Puget Sound (Washington) south to the Siskiyou Mountains (Oregon), and
(C) A smaller area in the rain shadow of the Olympic Mountains (Washington) that includes a strip along the northeast end of the Olympic Peninsula, the eastern shore of Vancouver Island (British Columbia) and the Puget Sound Islands that lie to the east.

The fog belt zone and the dry interior valley zone as shown on MANNING SEED COMPANY maps have been broken down into separate regions that vary from 2 to 3 degrees in average annual temperature and vary also in minimum temperature and rainfall. They are as follows:

REGION 1

The cold, moist zone on the northwestern tip of the Olympic Peninsula that is characterized by low maximum and high minimum temperatures. Its average annual temperature is from 47° to 49° and has a minimum of +7° F. The rainfall averages from 80 to 123 inches per year.

REGION 2

Cool, moist zone of the fog belt that extends south to include the mouth of the Columbia River. The average annual temperature in this zone varies from 49° to 51° with a +4 minimum and a rainfall of 60 to 126 inches.

REGION 3

The warm coastal zone that extends south to the Siuslaw River. Average annual temperature in this locality varies from 51° to 52° but has a minimum that drops to zero. The rainfall varies from 60 to 94 inches.

REGION 4

This zone includes a broad coastal strip of highly productive forest that extends south to Cape Blanco, and a narrower coastal strip that extends south from there to the California line. It has an average annual temperature of 52° to 53° along the coast, and 55° in the interior with a minimum temperature of +14°. It is moist but not wet, having a rainfall of from 52 to 78 inches.

REGION 5

This is the low rainfall zone in the rain shadow of the Olympics in the northern part of the Puget Sound region that has a maritime atmosphere. The average temperature varies from 48° to 50°. The minimum on the islands is +5° and on the mainland is -3°. The rainfall varies from 18 to 36 inches per year.

REGION 6

This is the cool northern zone on the west slope of the Cascades from which much of the seed was obtained that has been sent to Europe to date. The average temperature varies from 49° to 50°, but the minimum drops to -11°. The average rainfall varies from 36 to 76 inches.

REGION 7

This is the first of the broad interior valley zones where the middle of the zone is made up of agricultural lands and the fringes toward the Coast Range to the west and toward the Cascades to the east constitute the forest areas. It varies in average annual temperature from 50° to 52°. The minimum varies also showing in some localities a minimum of +10° and dropping as low in others as -16°. The rainfall varies from 30 to 60 inches.

REGION 8

This zone includes the northern half of the Willamette Valley from the summit of the Coast Range to the middle elevations in the Cascades. The average annual temperature varies from 52° to 53° with a minimum temperature of 10°. Like the zone to the north, the rainfall varies from 30 to 60 inches.

REGION 9

This includes the dry part of southwestern Oregon where, as you proceed southward, the Douglas-Fir is replaced for the most part by ponderosa pine, and the forests in a few instances divert from their characteristic even-aged condition to a somewhat all-aged forest. The average annual temperature varies from 53° to 54° but has a minimum as low as -10°. The rainfall varies from 20 to 45 inches.

As previously stated, these zones are general in character. They are based on U. S. Weather Bureau records as published in the publication "Better Douglas-Fir Forests from Better Seed" printed by the University of Washington. These records represent mostly the middle and lower altitudes within their respective regions. When cone collections are made at higher elevations, they will represent a proportionately colder and more moist climate.

MANNING SEED COMPANY

IDENTIFICATION OF CONE COLLECTION REGIONS

The Regions from which "BONDED MANINGSEED" is collected are identified by code numbers such as the following:

Region 61-0-50
or
Lot No.61-0-50

which means Region 6, Zone 1, zero to 500 feet elevation, collected 1950. This regional information is used by all MANNING SEED COMPANY foresters in identifying special seed collected and bonded by our Company.

Collection zones within each region can further be defined by using U. S. Land Survey Lines information from Douglas Fir Region Maps, such as our seed from Darrington at Region 6, Zone 1, Township 32 North, Range 9 East from the Willamette Meridian. In this 6 mile square (Twp. 32 N., R. 9 E.), you will find the Darrington area.

This method of designating a collection area is more accurate than the old method of using Longitude 122°, Latitude 48°, to identify Darrington seed.

A sample of the identification tags used by our foresters is enclosed. With tags such as these attached to each sack of cones we are able to accurately identify all BONDED MANINGSEED and keep each lot separate until sealed and labeled for shipment.

MANNING SEED COMPANY